



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,040	10/22/2003	Herbert Hartgrove	PGI6044P1141US	7546
32116	7590	05/04/2004	EXAMINER	
WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661			VANATTA, AMY B	
			ART UNIT	PAPER NUMBER
			3765	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/691,040	Applicant(s) HARTGROVE ET AL.	
	Examiner Amy B. Vanatta	Art Unit 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03252004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. This application claims priority from Provisional Application 60/420,149, however the provisional application has no inventors in common with the present application. There must be at least one common inventor to claim priority benefits from this provisional application.

Specification

2. The disclosure is objected to because of the following informalities:

The specification discloses the use of "cast scrim" as a layer of the fabric, however it is unclear exactly what is meant by this term. Although scrims are common in the art, it is unclear what the term "cast" denotes in this context.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3765

Claims 2 and 7 recite a "cast scrim" layer. This recitation renders the claims indefinite since it is unclear what is meant by the term "cast" in this context.

Claim Rejections - 35 USC § 102 and 35 USC § 103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 4, 5, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans (US 3,485,706).

Evans discloses a method of making a fabric including the step of providing a fibrous matrix (see "initial layer" disclosed in col. 12, lines 5-15). The fibrous matrix may be comprised of staple length fibers or continuous filaments as in claims 4 and 5 (col. 5, lines 15-16). Evans discloses that the fibrous matrix (i.e. the "initial layer" discussed in

Art Unit: 3765

col. 12, lines 5-15) may include a scrim layer, a woven cloth, or other reinforcing material (col. 12, lines 15-18). This scrim or woven cloth forms a support layer as in claims 1 and 8. A scrim is known to be a woven or mesh textile, thus inherently comprising continuous filaments as in claims 1 and 8. A woven cloth inherently comprises a continuous warp and a continuous weft which are interwoven to form the fabric, thus comprising continuous filaments as in claims 1 and 8. The support layer and fibrous matrix layer are clearly juxtaposed, since Evans teaches that the layers are combined in the final product by the hydraulic treatment (see col. 12, lines 17-18). Evans discloses a step of providing a foraminous surface which comprises a three-dimensional image transfer device (col. 7, line 75 through col. 8, line 8; also see elements 30,31 in Fig. 2 and 92 in Figs. 40-41), as in claims 1, 3, and 8. The three-dimensional image transfer device has a movable imaging surface (see 30,31 in Fig. 2, col. 19, lines 15-20; see 92 in Figs. 40-41) as in claim 8. Evans discloses applying hydraulic energy (see 35,36 in Fig. 2 and 90,91 in Fig. 40) to entangle the layers into a precursor web. The method also includes steps of advancing the precursor web onto the image transfer device (30 or 31 in Fig. 2; 92 in Figs. 40-41) such that the web moves with the imaging surface and hydroentangling the precursor web on the image transfer device (by jets 37-40 in Fig. 2 and jets 98 in Figs. 40-41) to form a three-dimensionally imaged nonwoven fabric. It is noted that drum 92 of Figs. 40-41 is disclosed as being an apertured patterning member of a type "discussed previously" by Evans (col. 22, lines 3-5), and Evans does previously discuss that the patterning members include a three dimensional imaging surface. Additionally, the honeycomb

Art Unit: 3765

support disclosed in col. 22 has a three dimensional imaging surface. Thus, drums 90 and 91 in Fig. 40 provide the initial hydraulic energy to entangle the layers into a precursor web as in claims 1 and 8, while drum 92 forms the claimed three-dimensional imaging surface to form the three dimensionally imaged nonwoven fabric. Evans discloses steps of carding and cross-lapping the fibrous matrix (col. 12, line 15; col. 20, line 44 thru col. 21, line 2) as in claim 8.

With regard to the recitation that the fabric is a "secondary carpet backing fabric", such a recitation amounts to the intended use of the fabric and does not further define the claimed steps of making the fabric.

8. Claim 2 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Evans (US 3,485,706).

Evans discloses a method of making a fabric including the step of providing a fibrous matrix (see "initial layer" disclosed in col. 12, lines 5-15). Evans discloses that the fibrous matrix (i.e. the "initial layer" discussed in col. 12, lines 5-15) may include a scrim layer or other reinforcing material (col. 12, lines 15-18). This scrim forms a support layer as claimed. The scrim disclosed by Evans appears to be a "cast scrim" to the extent this recitation is understood. Alternatively, if the recitation "cast scrim" is distinct from the "scrim" disclosed by Evans, the use of such a type of scrim would be obvious. That is, it is within the routine skill in the art to choose a specific type of scrim to be used as the scrim in the method of Evans. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a cast scrim as

Art Unit: 3765

the scrim in the method of Evans, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Further with regard to claim 2, the support layer and fibrous matrix layer in the method of Evans are clearly juxtaposed, since Evans teaches that the layers are combined in the final product by the hydraulic treatment (see col. 12, lines 17-18). Evans discloses a step of providing a foraminous surface which comprises a three-dimensional image transfer device which forms a three-dimensionally imaged nonwoven fabric, as claimed (col. 7, line 75 through col. 8, line 8; also see elements 30,31 in Fig. 2 and 92 in Figs. 40-41). Evans discloses applying hydraulic energy (see 35,36 in Fig. 2 and 90,91 in Fig. 40) to entangle the layers into a precursor web. The method also includes steps of advancing the precursor web onto the image transfer device (30 or 31 in Fig. 2; 92 in Figs. 40-41) to hydroentangle the precursor web on the image transfer device (by jets 37-40 in Fig. 2 and jets 98 in Figs. 40-41) to form a three-dimensionally imaged nonwoven fabric. It is noted that drum 92 of Figs. 40-41 is disclosed as being an apertured patterning member of a type "discussed previously" by Evans (col. 22, lines 3-5), and Evans does previously discuss that the patterning members include a three dimensional imaging surface. Additionally, the honeycomb support disclosed in col. 22 has a three dimensional imaging surface. Thus, drums 90 and 91 in Fig. 40 provide the initial hydraulic energy to entangle the layers into a precursor web, while drum 92 forms the claimed three-dimensional imaging surface to form the three dimensionally imaged nonwoven fabric.

With regard to the recitation that the fabric is a "secondary carpet backing fabric", such a recitation amounts to the intended use of the fabric and does not further define the claimed steps of making the fabric.

9. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilmore et al (US 5,369,858).

Gilmore et al disclose a method of making a fabric including the step of providing a fibrous matrix (e.g. meltblown fibers from die 22 in Fig. 1) and a support layer comprising continuous filaments (e.g. continuous filament textile fibers from extruder 12 in Fig. 1). The meltblown fibers from die 22 shown in Fig. 1, which form the claimed "fibrous matrix", are continuous filaments as in claim 5. Gilmore discloses a step of providing a foraminous surface (18). The fibrous matrix and support layer are juxtaposed and hydraulic energy is applied thereto to entangle the fibrous matrix and the support layer. The first two manifolds 23 operate at a lower pressure than the remainder of manifolds (col. 9, lines 36-39); thus, the claimed step of applying hydraulic energy to entangle the fibrous matrix and support layer into a precursor web is met by applying this lower pressure hydraulic energy by the first two manifolds 23. A step of hydroentangling the precursor web on the foraminous surface to form a three-dimensionally imaged nonwoven fabric is met by the remainder of the manifolds 23, which operate at a higher pressure (col. 9, lines 36-39). Gilmore discloses that a pattern ("image" as in claims 1 and 2) may be formed on the hydroentangled web by use of a patterned foraminous surface 18 (col. 9, lines 40-66). Gilmore teaches that the

patterned foraminous surface may include a surface topography with knuckles having a height dimension (col. 9, lines 45-55), thus being a three dimensional image transfer device as in claim 3 and resulting in apertures and surface patterns on the web which are three dimensional images as in claims 1-2 (col. 7, line 60 through col. 8, line 22; col. 9, lines 40-66).

Regarding claim 2, Gilmore discloses an embodiment wherein the meltblown layer forms the fibrous matrix and a scrim (net from roller 26) forms the support layer (Fig. 2; col. 11, lines 41-44). This net is a scrim formed from side by side extrusion of thermoplastic polymers as disclosed in US 4,636,419 (col. 11, lines 45-55); this is a "cast scrim" to the extent recited in claim 2.

Regarding claim 4, Gilmore discloses an embodiment including a layer of staple fibers (col. 11, lines 60-61) which form the claimed fibrous matrix. In this embodiment, the support layer is the top layer of extruded meltblown microfibers which are continuous fibers as claimed and form a "support" layer to the extent claimed due to their strength and stability which lends support to the staple fiber bottom layer when the layers are entangled together. Also, Gilmore teaches that these layers can be reversed, as discussed with respect to Fig. 3, with the fibrous matrix comprising staple fibers forming the upper layer and the meltblown web forming the lower layer (col. 12, lines 36-37 and 40-45). In this case, the meltblown web (which comprises continuous filaments) forms the claimed support layer, since it functions to support the top layer by virtue of being on the bottom, and the top layer is the claimed fibrous matrix including staple fibers as in claims 1 and 4. In this embodiment (Fig. 3), the drum 34 forms the

Art Unit: 3765

step of applying hydraulic energy to form the precursor web, and drum 34' forms the step of hydroentangling to form the three dimensionally imaged nonwoven fabric. Claim 4 is also met by Fig. 4, in which the fibrous matrix comprises staple fibers and the support layer comprises a melt blown layer (col. 13, lines 40-66).

Regarding claim 6, Gilmore discloses an embodiment including a meltblown layer (from extruder 21'; Fig. 2) which forms the claimed fibrous matrix and a support layer (from roller 26; Fig. 2) comprising a spunbond fabric (col. 10, lines 36-39).

With regard to the recitation that the fabric is a "secondary carpet backing fabric", such a recitation amounts to the intended use of the fabric and does not further define the claimed steps of making the fabric.

10. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Radwanski et al (US 6,022,447).

Radwanski et al disclose a method of making a fabric including the step of providing a fibrous matrix (20) and a support layer (26) of continuous filaments (col. 9, lines 64-65). Radwanski discloses a step of providing a foraminous surface (22). The fibrous matrix and support layer are juxtaposed and hydraulic energy is applied thereto to entangle the fibrous matrix and the support layer. Radwanski discloses that the hydroentangling process may use the equipment disclosed in US Patent No. 3,485,706 to Evans (col. 9, lines 26-31). As discussed on this Office Action above, Evans discloses steps of applying hydraulic energy to the layers resulting in a precursor web which is formed by hydroentangling into a three-dimensionally imaged nonwoven fabric,

Art Unit: 3765

as in claims 1-2. Evans discloses use of a three-dimensional image transfer device as in claim 3 (col. 7, line 75 through col. 8, line 8; also see elements 30,31 in Fig. 2 and 92 in Figs. 40-41). The fibrous matrix of Radwanski comprises staple fibers as in claim 4 (col. 8, lines 19 and 25-26). Radwanski discloses the use of a spunbond fabric for the support layer (26) as in claim 6 (col. 9, line 65; col. 5, line 10). Regarding claim 2, Radwanski discloses the use of a scrim for the support layer (col. 5, line 7; col. 7, line 3). The scrim disclosed by Radwanski appears to be a "cast scrim" to the extent this recitation is understood.

With regard to the recitation that the fabric is a "secondary carpet backing fabric", such a recitation amounts to the intended use of the fabric and does not further define the claimed steps of making the fabric.

11. Claim 2 (alternatively) and claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radwanski et al (US 6,022,447).

Regarding claim 2, the steps of the method are disclosed by Radwanski, as set forth in the preceding rejection, including providing a scrim layer as the support layer (col. 5, line 7; col. 7, line 3). The scrim disclosed by Radwanski appears to be a "cast scrim" to the extent this recitation is understood. Alternatively, however, if the recitation "cast scrim" is distinct from the "scrim" disclosed by Radwanski, the use of such a type of scrim would be obvious. That is, it is within the routine skill in the art to choose a specific type of scrim to be used as the scrim in the method of Radwanski. It would have been obvious to one having ordinary skill in the art at the time the invention was

Art Unit: 3765

made to use a cast scrim as the scrim in the method of Radwanski, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 7, Radwanski discloses that the support layer comprises spunbond webs, scrim material, or other types of webs (col. 5, lines 3-12; col. 7, lines 1-3; col. 9, lines 63-65), and "combinations thereof". Thus, Radwanski discloses the support layer is a "combination" of webs selected from the disclosed grouping, which includes both spunbond webs and scrim. It is within the routine skill in the art to choose among the elements of the grouping to form the combination disclosed by Radwanski. Accordingly, it is within the routine skill in the art to select a scrim and spunbond web combination as in claim 7 given the disclosure of Radwanski. Such a "combination" would form a laminate to the extent recited in claim 7. Moreover, as discussed above, it is within the routine skill in the art to choose a specific type of scrim, specifically "cast" scrim, to be used as the scrim in the combination of layers disclosed by Radwanski. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spunbond fabric and cast scrim laminate as the support layer in the method of Radwanski, since Radwanski specifically teaches the use of a combination of webs from a disclosed grouping which includes both scrim and spunbond webs, and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Art Unit: 3765

12. Claims 1-6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Dale et al (US 6,629,340).

The applied reference (Dale et al) has no common inventors with the present application. Also, it is noted that the present application has no assignee on file with the Office. Thus, it appears that the applied reference (Dale et al) and the present application have no common inventors or assignee. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e).

Dale et al disclose a method of making a fabric including the step of providing a fibrous matrix and a support layer (see '340 claim 1). The support layer may be a spunbond fabric (col. 7, line 43), which inherently comprises continuous filaments, as in claims 1 and 6. Dale et al disclose a step of providing a foraminous surface (22), juxtaposing the fibrous matrix and support layer are juxtaposed, and applying hydraulic energy is thereto to entangle the fibrous matrix and the support layer (see '340 claim 1). A step of hydroentangling the precursor web to form a three dimensionally imaged nonwoven fabric is disclosed (see '340 claim 1). Dale discloses the use of a three-dimensional image transfer device as in claim 3 (see '340 claim 1). The fibrous matrix comprises staple fibers or continuous filaments as in claims 4 and 5 (see claims 2 and 3 of Dale). Dale also discloses the use of a scrim for the support layer (see claim 4 of Dale) as in claim 2. The scrim disclosed by Dale appears to be a "cast scrim" to the extent this recitation is understood. The steps of carding and cross lapping as recited in claim 8 are also disclosed by Dale (see claim 11 of Dale).

Art Unit: 3765

With regard to the recitation that the fabric is a "secondary carpet backing fabric", such a recitation amounts to the intended use of the fabric and does not further define the claimed steps of making the fabric.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 703-308-2939. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amy B. Vanatta
Primary Examiner
Art Unit 3765